

NEW SPECIES OF *NEOTRICHIA* FROM TEXAS AND PANAMA, WITH A
PRELIMINARY REVIEW OF THE *N. CANIXA* GROUP
(TRICHOPTERA: HYDROPTILIDAE)

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Abstract.—Two new species in the *Neotrichia canixa* group, *N. juani* from Texas and *N. malickyi* from Panama, are described and illustrated. An overview of the *N. canixa* group is presented with redescriptions and illustrations of *N. corniculans* Flint and *N. tauricornis* Malicky.

Key Words: Trichoptera, Hydroptilidae, *Neotrichia*, new species, Texas, Panama

The *Neotrichia canixa* group of Marshall (1979) is presently comprised of seven species, *N. canixa* (Mosely), *N. corniculans* Flint, *N. dubitans* (Mosely), *N. xicana* (Mosely), *N. maria* Bueno and Hamilton, *N. tauricornis* Malicky and *N. cuernuda* Harris. The group has several distinctive features in common, including a thin bifid process on the posterolateral margin of the ninth abdominal segment; inferior appendages divided in ventral aspect; a phallus with the apex usually divided into two short, curved processes; and the tergum of segment ten with horned processes. The species group was considered Neotropical, with *N. canixa*, *N. xicana* and *N. maria* from southern Mexico; *N. cuernuda* from Venezuela; *N. dubitans* from Brazil; *N. corniculans* from Dominica and Surinam; and *N. tauricornis* the most widespread, with records from Guadeloupe, Martinique and Trinidad in the Lesser Antilles, Panama and Colombia.

The distribution of the *N. canixa* group is expanded northward into the southwestern United States with the discovery of a new species from several streams and rivers in Texas. An additional new species is de-

scribed from Panama. These species are compared to *N. tauricornis* and *N. corniculans* which are redescribed. Morphological terminology follows that of Marshall (1979). Length is measured from the top of the head to the tip of the forewings and is given as a range with more than one specimen. Holotypes are deposited in the National Museum of Natural History, Washington, D.C. (NMNH). Paratypes are deposited at the NMNH, Illinois Natural History Survey, Southwest Texas State University, University of North Texas and in the collection of the senior author.

Neotrichia juani Harris and Tiemann
NEW SPECIES

Fig. 1

Diagnosis.—In overall appearance of the genitalia, this species is similar to *N. maria*. It differs in the short, wide inferior appendages and presence of a lobate process from the inner posterolateral margin of segment IX.

Description.—Male. Length 1.9–2.4 mm. 18 antennal segments. Brown in alcohol. Ninth abdominal segment in lateral view

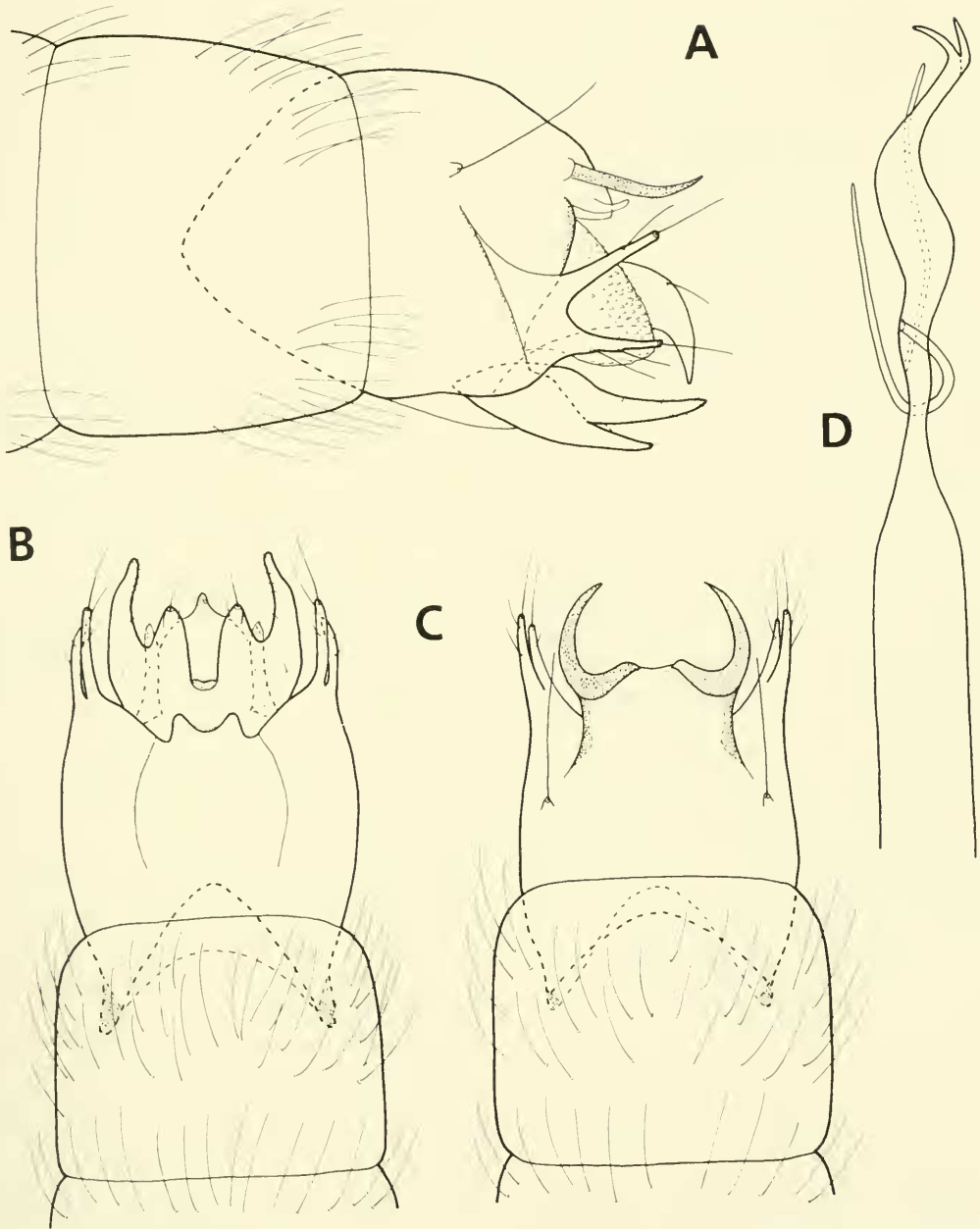


Fig. 1. *Neotrichia juani*, male genitalia; A. Lateral view, B. Ventral view, C. Dorsal view, D. Phallus, lateral view.

with anterior margin tapered, bracteole from posteroventral margin developed into forked process, each arm thin and elongate, lobate process from inner posterior margin; in ventral view posterolateral processes narrow,

anterior margin emarginate; dorsally with pair of small setiferous lobes. Segment X fused with IX, tergum developed as pair of curved horns, which are sclerotized and acute distally. Inferior appendages appear-

ing bifid in lateral view, thin and narrowing distally; in ventral view, fused mesally, bifid laterally, inner process thick, rounded distally and bearing stout seta, outer process narrow, tapering distally. Subgenital plate a thin shelf in lateral view, curving ventrad to acute apex; in ventral view rounded, with short mesal projection. Phallus wide basally, sinuate apically, pair of short processes at apex, lower process bent inward; thin paramere encircling shaft at narrow midlength.

Type material.—Holotype; male. United States, Texas, Comal County, Honey Creek at Honey Creek Nature Preserve, 18 August 1990, S. G. Tiemann. Paratypes; Texas, Hays County, Blanco River at Post Road, 4 May 1991, S. G. Tiemann, 42 ♂, same but 4 June 1990, 2 ♂, same but 19 June 1991 98 ♂, San Marcos River at County Road 299, 8 April 1991, S. G. Tiemann, 1 ♂, same but 20 June 1991, 36 ♂, Johnson County, Ham Creek, FM 916, 4 km W Rio Vista, 13 June 1991, Dan Petr, 2 ♂, same but 2 October 1991, 8 ♂.

Etymology.—Named for John Tiemann.

Discussion.—*Neotrichia juani* occurs at the edge of the Edwards Plateau in central Texas. The species has been collected along permanent and intermittent rivers, as well as small spring-fed streams.

Neotrichia malickyi Harris

NEW SPECIES

Fig. 2

Diagnosis.—Although similar to *N. tauricornis*, this new species is readily identified by the asymmetrical horns of the tenth tergum and the simple subgenital plate.

Description.—Male. Length 2.5–2.8 mm. Antennae broken, but more than 15 segments. Brown in alcohol. Ninth abdominal segment in lateral view with anterior margin rounded, bracteole from posteroventral margin developed into forked process, each arm thin and short; in ventral view posterolateral process short, anterior margin emarginate; dorsally with pair of small setiferous lobes. Segment X fused with IX,

tergum developed as pair of asymmetrical, curved horns. Inferior appendages short, upturned distally in lateral view; in ventral view bifid, outer process sclerotized, wide basally, tapering distally to rounded apex, inner process thin and narrowing apically, bearing stout seta at apex. Subgenital plate a narrow shelf in lateral aspect, sclerotized and downturned at apex; in ventral view rounded with mesal projection apically, bearing elongate setae posterolaterally. Phallus wide basally, tubular distally, pair of bent processes at apex, small subapical process; thin paramere encircling shaft at midlength.

Type material.—Holotype; male. Panama, Barro Colorado Island, Lutz, February–March 1986, H. Malicky. Paratypes; same data as holotype, 6 ♂.

Etymology.—Named for Hans Malicky, who collected the type series, in recognition of his many contributions to the study of caddisflies.

Neotrichia tauricornis Malicky

Fig. 3

Neotrichia tauricornis Malicky, 1980: 220.

Diagnosis.—Similar in many respects to *N. malickyi* and *N. corniculans*, *N. tauricornis* is easily separated by the structure of the subgenital plate.

Redescription.—Male. Length 1.5–1.9 mm. 18 antennal segments. Brown in alcohol. Ninth abdominal segment in lateral view with anterior margin rounded, bracteole from posteroventral margin developed into forked process, upper arm about half length of elongate lower arm; in ventral view lateral processes elongate, anterior margin emarginate; dorsally with pair of small setiferous lobes. Segment X fused with IX, tergum developed as pair of short, curved, sclerotized horns. Inferior appendages nearly rectangular in lateral view with numerous short spines dorsoapically; in ventral view bifid, outer process sclerotized, nearly uni-

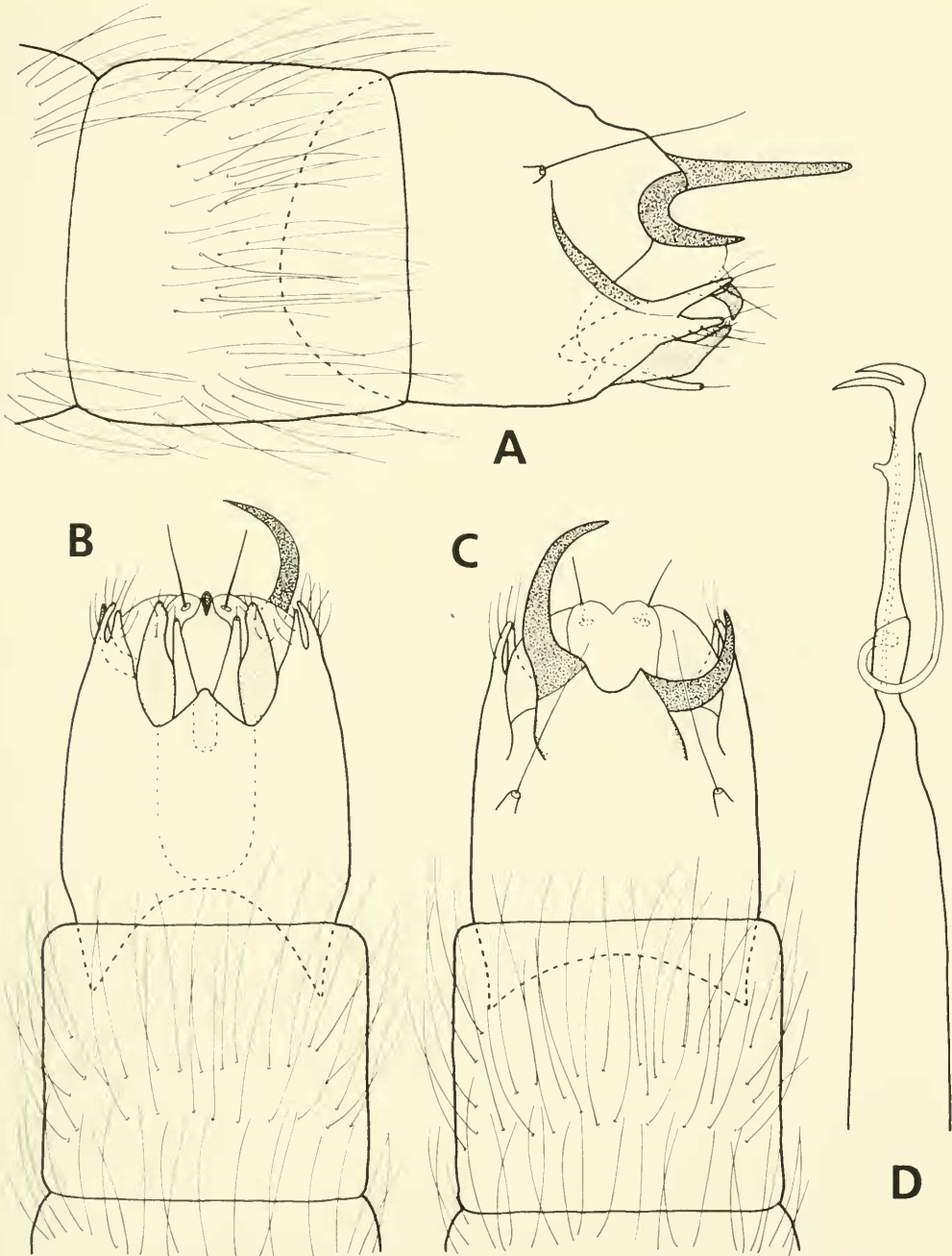


Fig. 2. *Neotrichia malickyi*, male genitalia; A. Lateral view, B. Ventral view, C. Dorsal view, D. Phallus, lateral view.

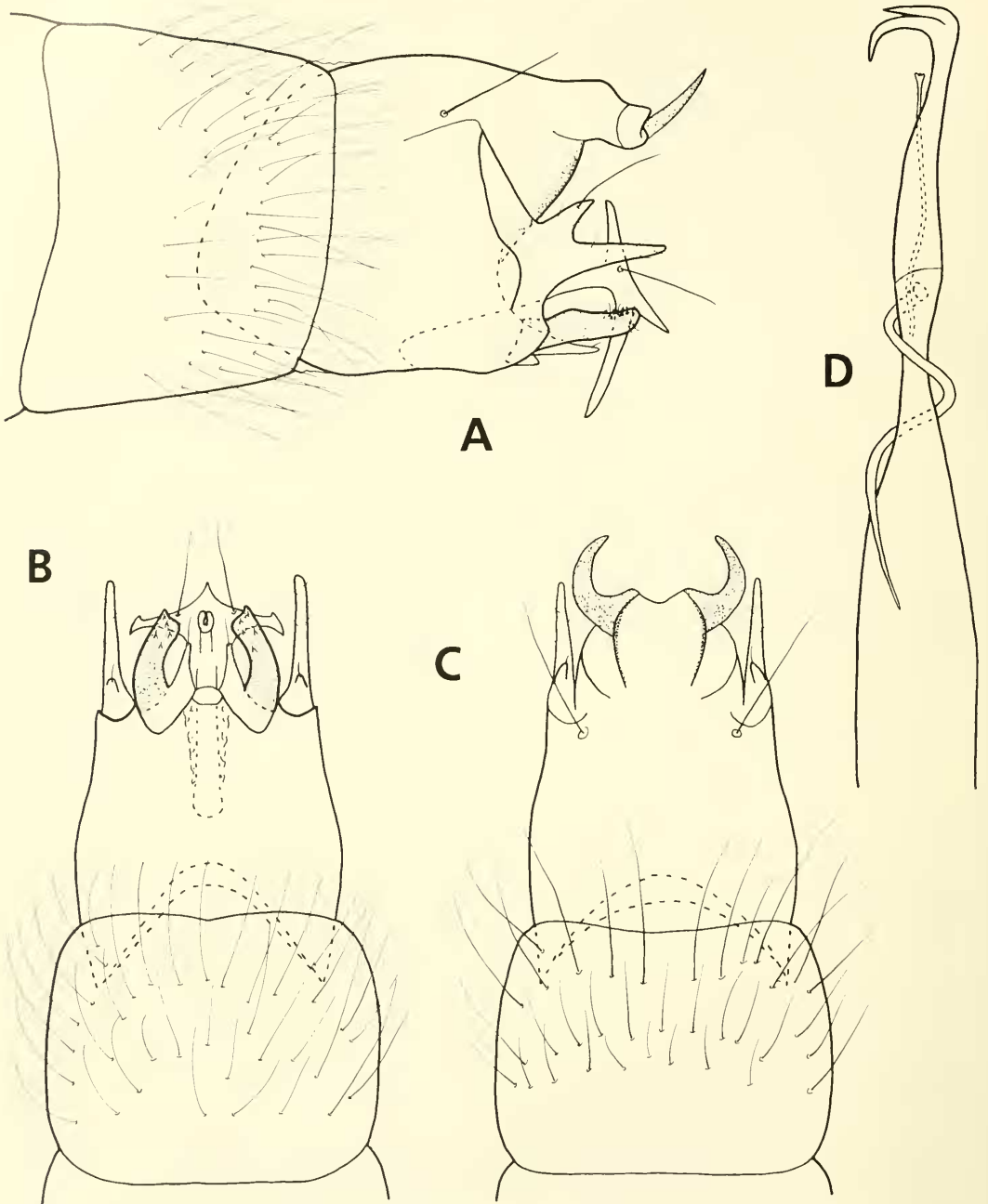


Fig. 3. *Neotrichia tauricornis*, male genitalia; A. Lateral view, B. Ventral view, C. Dorsal view, D. Phallus, lateral view.

form in width, curving inward, inner process thin and narrowing distally, bearing stout seta at apex. Subgenital plate with 3-pronged apex, lower process elongate and

projecting downward, upper process about half length of lower, bearing elongate seta at base, middle process acute apically and projecting ventrad; in ventral view narrow

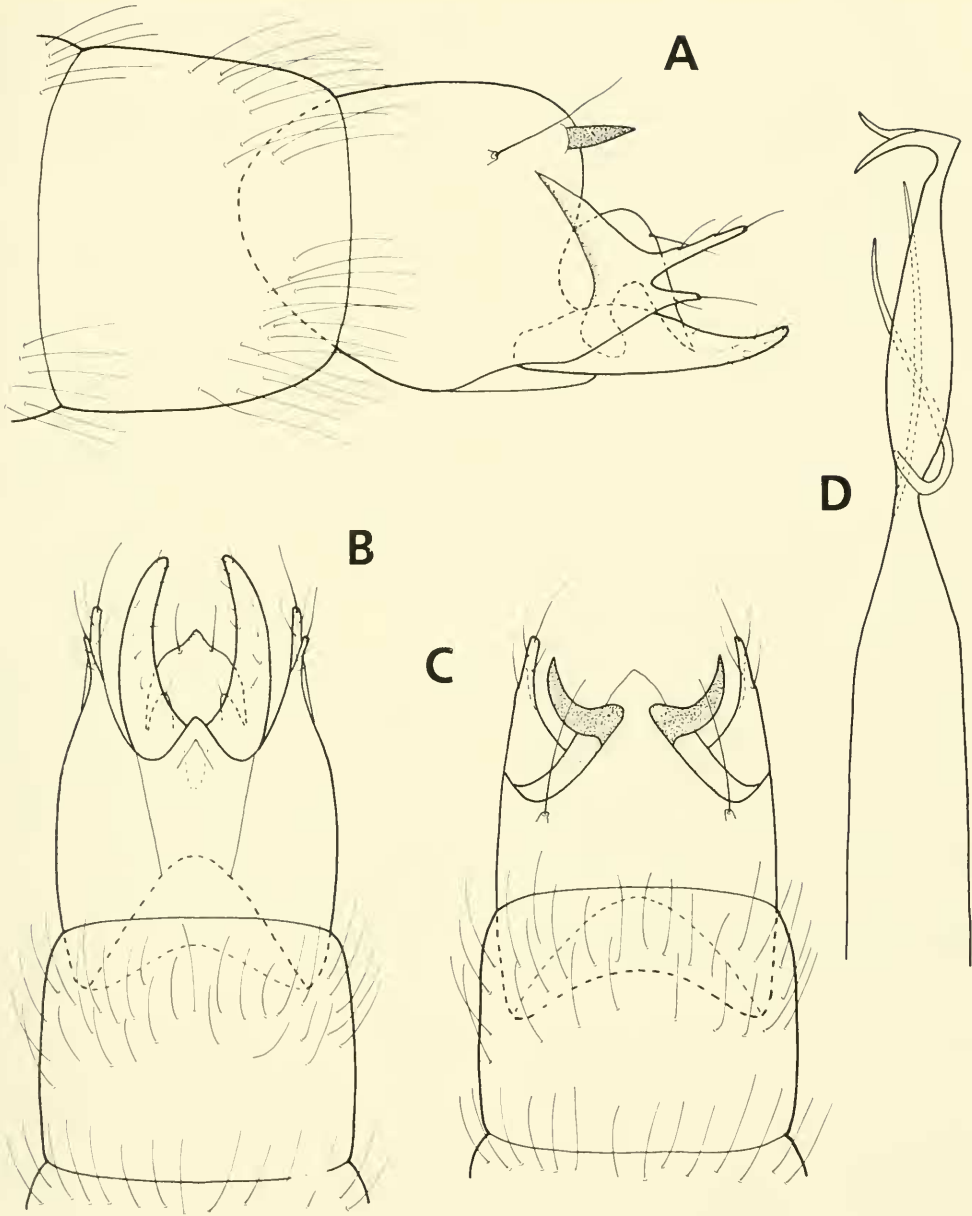


Fig. 4. *Neotrichia corniculans*, male genitalia; A. Lateral view, B. Ventral view, C. Dorsal view, D. Phallus, lateral view.

basally, elongate lateral arms subapically, each bearing long seta, apex acute. Phallus wide basally, tubular distally, pair of bent processes at apex, lower process curving downward; thin paramere encircling shaft at midlength.

Specimens examined.—Trinidad, Paria

River, March 1985, V. Jones, 1 ♂; Panama, Barro Colorado Island, Lutz, February–March 1986, H. Malicky, 1 ♂; Colombia, Dpto. Antioquia, Quebrada la Cebolla, El Retiro (trap A), 3 July 1983, U. Matthias, 1 ♂, Quebrada la Jimenez, Sopetran (trap C), 2 June–1 October 1983, 2 ♂.

Neotrichia corniculans Flint

Fig. 4

Neotrichia corniculans Flint, 1968: 50.

Diagnosis.—In overall genitalic features, *N. corniculans* resembles *N. maria*. The short sclerotized horns of the tenth tergum and structure of the inferior appendages are distinctive in *N. corniculans*.

Redescription.—Male. Length 1.7 mm. Antennae broken, but more than 15 segments. Silvery gray in color. Ninth abdominal segment in lateral view with anterior margin rounded, bracteole from postero-ventral margin developed into forked process, lower arm about half length of elongate upper arm; in ventral view lateral processes thin and elongate, anterior margin emarginate; dorsally with pair of small setiferous lobes. Segment X fused with IX, tergum developed as pair of short, sclerotized horns, which project slightly laterad. Inferior appendages in lateral view wide basally, tapering to rounded, slightly upturned apex; in ventral view tapering distally to rounded apices, curving inward, short setiferous lobe at base. Subgenital plate in lateral view wide at base, narrowing distally and curving ventrad; in ventral view rounded, with mesal projection, pair of setae subapically. Phallus wide basally, pair of bent processes at apex,

upper process curving upward; thin paramere encircling shaft at narrow midlength.

Specimen examined.—Paratype; Dominica, D'leau Gommier, 15 February 1965, W. W. Wirth, 1 ♂ (USNM).

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